

WHAT IS CLAIMED IS:

1. A method of providing a polysulfone polymer with low yellow coloration comprising reacting 2,2-bis(4-hydroxyphenyl)propane with at least one diarylsulfone compound to form a low-color content polysulfone polymer, wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.27% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.
2. The method of claim 1 wherein the at least one diarylsulfone compound comprises two aryl groups bridged by a sulfone group.
3. The method of claim 2 wherein each aryl group is substituted with one reactive group selected from the group consisting of halogen, cyano, and hydroxyl, with multiple substituents, if any, being either the same or different on each molecule.
4. The method of claim 1 wherein the at least one diarylsulfone is selected from the group consisting of bis(4-chlorophenyl)sulfone or 4-chlorophenyl-4'-hydroxyphenylsulfone.
5. The method of claim 1 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 1.00.
6. The method of claim 2 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 1.00.
7. The method of claim 3 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 1.00.

8. The method of claim 4 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 1.00.

9. The method of claim 1 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 0.75.

10. The method of claim 4 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a color index of less than 0.75.

11. The method of claim 1 wherein a 2,2-bis(4-hydroxyphenyl)propane composition is recrystallized to form 2,2-bis(4-hydroxyphenyl)propane that comprises less than 0.27% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

12. The method of claim 1 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

13. The method of claim 4 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

14. The method of claim 2 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.20% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

15. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-

hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the color index of the polysulfone resin is less than 0.75.

16. The method of claim 8 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the color index of the polysulfone resin is less than 0.75.

17. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.20% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the color index of the polysulfone resin is less than 0.75.

18. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.15% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the color index of the polysulfone resin is less than 0.50.

19. A transparent, low yellow-coloration polysulfone layer comprising a polysulfone polymer derived from reactants comprising a 2,2-bis(4-hydroxyphenyl)propane and at least one diarylsulfone compound, wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.27% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

20. A transparent, low yellow-coloration polysulfone ophthalmic lens comprising a polysulfone polymer derived from reactants comprising a 2,2-bis(4-hydroxyphenyl)propane and at least one diarylsulfone compound, wherein moieties in the polysulfone derived from the 2,2-bis(4-hydroxyphenyl)propane comprises units wherein fewer than 0.27% by total

weight of the 2,2-bis(4-hydroxyphenyl)propane comprises 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.

21. The layer of claim 19 wherein the layer has a color index of less than 1.00.
22. The lens of claim 20 wherein the polysulfone polymer has a color index of less than 1.00.
23. The lens of claim 20 wherein the polysulfone polymer has a color index of less than 0.75.
24. The lens of claim 20 wherein the polysulfone polymer has a color index of less than 0.50.
25. A transparent, low yellow-coloration polysulfone, injection-molded ophthalmic lens comprising a polysulfone polymer derived from reactants comprising a 2,2-bis(4-hydroxyphenyl)propane and at least one diarylsulfone compound, wherein moieties in the polysulfone derived from the 2,2-bis(4-hydroxyphenyl)propane comprises units wherein fewer than 0.27% by total weight of the 2,2-bis(4-hydroxyphenyl)propane comprises 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane.
26. The layer of claim 25 wherein the layer has a color index of less than 1.00.
27. The lens of claim 25 wherein the polysulfone polymer has a color index of less than 1.00.
28. The lens of claim 25 wherein the polysulfone polymer has a color index of less than 0.75.
29. The lens of claim 25 wherein the polysulfone polymer has a color index of less than 0.50.

30. The method of claim 1 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 1.00.

31. The method of claim 2 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 1.00.

32. The method of claim 3 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 1.00.

33. The method of claim 4 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 1.00.

34. The method of claim 1 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 0.75.

35. The method of claim 4 wherein the low-color content polysulfone polymer is injection molded at a temperature of at least 100 °C. to produce a transparent polymeric material with a yellowness index of less than 0.75.

36. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the yellowness index of the polysulfone resin is less than 0.75.

37. The method of claim 8 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.25% by total weight of 2-(4-hydroxyphenyl)-2-(2-

hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the yellowness index of the polysulfone resin is less than 0.75.

38. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.20% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the yellowness index of the polysulfone resin is less than 0.75.

39. The method of claim 5 wherein the 2,2-bis(4-hydroxyphenyl)propane comprises less than 0.15% by total weight of 2-(4-hydroxyphenyl)-2-(2-hydroxyphenyl)propane and 2,2-bis(2-hydroxyphenyl)propane and the yellowness index of the polysulfone resin is less than 0.50.

40. The layer of claim 19 wherein the layer has a yellowness index of less than 1.00.

41. The lens of claim 20 wherein the polysulfone polymer has a yellowness index of less than 1.00.

42. The lens of claim 20 wherein the polysulfone polymer has a yellowness index of less than 0.75.

43. The lens of claim 20 wherein the polysulfone polymer has a yellowness index of less than 0.50.

44. The layer of claim 25 wherein the layer has a yellowness index of less than 1.00.

45. The lens of claim 25 wherein the polysulfone polymer has a yellowness index of less than 1.00.

46. The lens of claim 25 wherein the polysulfone polymer has a yellowness index of less than 0.75.

47. The lens of claim 25 wherein the polysulfone polymer has a yellowness index of less than 0.50.